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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/506,043	02/17/2000	Qingfeng Tang	LUTA 0252 PUS	7011

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BROOKS KUSHMAN P.C. / LEAR CORPORATION  
1000 TOWN CENTER  
TWENTY-SECOND FLOOR  
SOUTHFIELD, MI 48075-1238

EXAMINER

KUMAR, PANKAJ

ART UNIT PAPER NUMBER

2631

DATE MAILED: 11/17/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

09/506,043

Applicant(s)

TANG, QINGFENG

Examiner

Pankaj Kumar

Art Unit

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 23 July 2004.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-6 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1 and 4-6 is/are rejected.
- 7) ☒ Claim(s) 2,3 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

## **DETAILED ACTION**

### ***Response to Arguments***

1. Applicant's arguments filed 7/23/2004 have been fully considered but they are not persuasive.
2. Applicant argues that Cloutier is an inverted super-regenerative oscillator and thus is far different from applicant's invention. This is not persuasive since applicant's claimed limitations of a super-regenerative oscillator are taught by Cloutier as shown in the prior action. The fact that Cloutier has an additional element of inverting merely means that Cloutier teaches all of the claimed limitations of the applicant and has additional element of inverting.
3. Applicant argues that Cloutier does not teach a super regenerative oscillator connected to a quench circuit in combination with a frequency sweeping circuit since Cloutier controls Q using feedback and operates between operation and close to oscillation. This is not persuasive. The fact that the applicant fails to use Q control the same way that Cloutier uses Q control does not mean that a super-regenerative oscillator cannot be connected to a quench circuit in combination with a frequency sweeping circuit. Cloutier teaches a quench control circuit (Cloutier fig. 10: 120), a frequency sweeping circuit (Cloutier fig. 10: 104), and a super-regenerative oscillator (Cloutier fig. 10 except for 120 and 104). In Cloutier, a super-regenerative oscillator (elements such as 101, 106, 122 in combination with most other elements except for 120 and 104) is connected, as represented by the arrows, to a quench circuit (120) in combination with a frequency sweeping circuit (104) since fig. 10 has elements connected to 120 and 104.

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4. Applicant states that there is no motivation to combine Cloutier and Issa. This is not persuasive. It would have been obvious, to one of ordinary skill in the art, at time the invention was made, to arrive at interrupting the oscillation of the oscillator at a predetermined frequency as recited by the instant claims, because the combined teaching of Cloutier with Issa suggest a system comprising elements of a quench circuit connected to the super-regenerative oscillator for interrupting the oscillation of the oscillator at a predetermined frequency as recited by the instant claims. Furthermore, one of ordinary skill in the art would have been motivated to combine the teachings of Cloutier with Issa because Cloutier suggests quenching (something broad) in general and Cloutier suggests the beneficial use of quenching at a predetermined frequency in the analogous art of super-regenerative circuits.

***Response to Amendment***

***Claim Rejections - 35 USC § 103***

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claims 1, 4, 5, 6 are rejected under 35 U.S.C. 103(a) as being unpatentable over Cloutier 6668165 in view of Issa 6317034.

7. As per claim 1, Cloutier teaches a narrow bandwidth super-regenerative receiver comprising: a signal detector having a regenerative oscillator (Cloutier fig. 10 except elements 120 and 104) for detecting a signal (Cloutier fig. 10: V1) transmitted at a particular transmit

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frequency (Cloutier fig. 10: Freq); a quench circuit connected to the regenerative oscillator (Cloutier fig. 10: 120) for interrupting the oscillation of the oscillator at a predetermined frequency (Cloutier does not teach this but it would have been obvious in view of Issa as discussed below); and a frequency sweeping circuit (Cloutier paragraph 39: "The frequency control circuit 104 may have an LC tank circuit in the KT Cell 100 with the "C" realized by varactor diodes or other variable capacitance devices."; col. 6 lines 41-42: "... 104 controls the centre frequency ...") connected to the regenerative oscillator and the quench circuit (Cloutier fig. 10: 104 is connected to fig. 10's elements and 120), wherein the quench circuit is arranged to cycle the regenerative oscillator and the frequency sweeping circuit on and off together (Cloutier fig. 10: output of 120 is prior to the regenerative oscillator and the frequency sweeping circuit and thus the output of 120 cycling cycles the regenerative oscillator and the frequency sweeping circuit on and off together), and the frequency sweeping circuit controls operation of the regenerative oscillator to a desired narrow bandwidth around the transmit frequency (inherent for the device to function properly). Cloutier does not teach interrupting the oscillation of the oscillator at a predetermined frequency. Issa teaches interrupting the oscillation of the oscillator at a predetermined frequency (Issa col. 9 lines 41-53). It would have been obvious to one skilled in the art at the time of the invention to modify Cloutier with Issa's teaching. One would be motivated to do so if one wanted to make an alarm sensor multiplexer or an automotive automation/security system. (Issa is using a super-regenerative receiver for its system and Cloutier is a super-regenerative receiver.)

8. As per claim 4, Cloutier in view of Issa teach the receiver of claim 1. Cloutier in view of Issa does not teach wherein the frequency sweeping circuit comprises a surfaced acoustic wave

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(SAW) resonator. But Cloutier does teach frequency sweeping circuit having variable capacitances devices. (Cloutier paragraph 39: "The frequency control circuit 104 may have an LC tank circuit in the KT Cell 100 with the "C" realized by varactor diodes or other variable capacitance devices."; col. 6 lines 41-42: "... 104 controls the centre frequency ..."). It would have been obvious to one skilled in the art at the time of the invention to modify Cloutier in view of Issa to teach a SAW resonator. One would be motivated to do so since SAW resonators have variable capacitances.

9. As per claim 5, Cloutier in view of Issa teach the receiver of claim 1. What Cloutier in view of Issa does not teach is wherein the frequency sweeping circuit comprises a ceramic resonator. But Cloutier does teach frequency sweeping circuit having variable capacitances devices. (Cloutier paragraph 39: "The frequency control circuit 104 may have an LC tank circuit in the KT Cell 100 with the "C" realized by varactor diodes or other variable capacitance devices."; col. 6 lines 41-42: "... 104 controls the centre frequency ..."). It would have been obvious to one skilled in the art at the time of the invention to modify Cloutier in view of Issa to teach a ceramic resonator. One would be motivated to do so since ceramic resonators have variable capacitances.

10. As per claim 6, Cloutier in view of Issa teach the receiver of claim 1 wherein the frequency sweeping circuit comprises an LC resonator (Cloutier paragraph 39: "The frequency control circuit 104 may have an LC tank circuit in the KT Cell 100 with the "C" realized by varactor diodes or other variable capacitance devices.").

*Allowable Subject Matter*

11. Claims 2 and 3 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

*Conclusion*

12. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

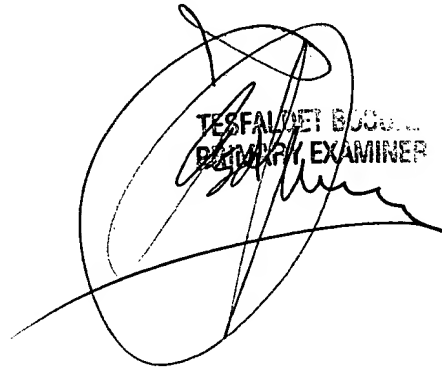
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Any inquiry concerning this communication or earlier communications from the examiner should be directed to Pankaj Kumar whose telephone number is (703) 305-0194. The examiner can normally be reached on Mon, Tues, Wed and Thurs after 8AM to after 6:30PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mohammad H. Ghayour can be reached on (703) 306-3034. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

PK



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